

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-4 and 17 are presently active in this case, Claim 1 having been amended and Claims 5-16 and 18-20 having been withdrawn from consideration.

In the outstanding Official Action, Claims 5-16 and 18-20 were withdrawn from consideration as directed to a non-elected invention; Claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by Sportouch et al. (Thermoelectric Properties of Half-Heusler Phases: $\text{ErNi}_{1-x}\text{Cu}_x\text{Sb}$, $\text{YNi}_{1-x}\text{Cu}_x\text{Sb}$ and $\text{Zr}_x\text{Hf}_y\text{Ti}_z\text{NiSn}$, 18th International Conference on Thermoelectrics, 1999, pgs 344-347, hereinafter "Sportouch"); Claims 2-4 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sportouch in view of Hohl et al. (Efficient dopants for ZrNiSn based thermoelectric materials, J. Phys.: Condens. Matter, 11, 1999, pgs 1697-1709, hereinafter "Hohl"); Claim 17 was rejected under 35 USC 103(a) as being unpatentable over Sportouch in view of Bell (US 6,700,052); and Claims 1-4 and 17 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1-18 of copending Application No. 11/088,245.

In light of the outstanding grounds for rejection, Claim 1 has been amended to clarify the claimed invention and thereby more clearly patentably define over the cited prior art. To that end, amended Claim 1 clarifies that the thermoelectric material of the present invention is a sintered body. Support for this clarification is found in the original specification, for example at page 31, lines 1-17. No new matter has been added.

In contrast to amended Claim 1, it is believed to be clear that Sportouch does not disclose the thermoelectric material recited in amended Claim 1 in that the thermoelectric material of Sportouch is not a sintered body. On the contrary, as taught by Sportouch, raw

metals are melted by arc-melting, and the melted metals are alloyed. The thermoelectric material of Sportouch is thereby obtained, which is clear from the disclosure at page 344, first paragraph, of the Sportouch reference. Therefore, Sportouch does not teach or obviate the sintered body integrally formed by sintering recited in amended Claim 1. In view of this distinction, it is respectfully submitted that amended Claim 1 is not anticipated by Sportouch under USC 102(b), and that this ground for rejection has been overcome. Withdrawal thereof is therefore believed to be in order and is respectfully requested.

As Claims 2-4 are dependent from Claim 1, and therefore include all the features of Claim 1, it is respectfully submitted that Claims 2-4 likewise are not anticipated by Sportouch.

Reiterating, Sportouch does not teach or suggest a sintered body, but merely describes arc-melting as a manufacturing method of the thermoelectric material. Hohl discloses that samples are prepared by arc-melting or sintering. It is respectfully submitted that when considered with Sportouch, the person skilled in the art would be led to employ the Hohl technique in a way consistent with the Sportouch technique, i.e, a person skilled in the art would apply the Hohl teaching of arc-melting to the arc-melting technique of Sportouch. On the other hand, there is no indication in the prior art that a Hohl sintering technique would be applicable to Sportouch's arc-melting technique, nor is there any indication in the prior art that such a combination would have any likelihood of success. Thus, it is respectfully submitted that absent hindsight, at most the "arc-melting" used in Hohl would be used in conjunction with Sportouch arc welding, but as a sintered body cannot be obtained by arc-melting, it is believed clear that the thermoelectric material of amended Claim 1 would not and cannot be obtained.

Accordingly, and since it is well-known for a person skilled in the art that sintering and arc-melting are different and it is not possible to combine such different methods, it is respectfully submitted that Claims 2-4 are not rendered obvious over Sportouch in view of Hohl. Accordingly, withdrawal of the rejection of Claims 2-4 under 35 USC 103(a) is believed to be in order and is respectfully requested.

Likewise, it is respectfully submitted that the subject matter of Claim 17, which has also been amended to recite a sintered material, is not obvious over Sportouch in view of Bell. The thermoelectric material of Claim 1 is necessary for the thermoelectric element of Claim 17. As stated above, Sportouch does not teach or suggest the thermoelectric material of Claim 1. Bell merely describes a flexible thermoelectric circuit, and does not recite the thermoelectric material of Claim 1. Therefore, Bell fails to cure the deficiencies of Sportouch and thus the thermoelectric element of Claim 17 is in no way obviated by the combined teachings of these two references. Withdrawal of the 35 USC 103 rejection of Claim 17 is therefore believed to be in order and is respectfully requested.

In response to Double Patenting rejection based on co-pending Application No. 11/088245, submitted herewith is a duly executed terminal disclaimer, filed at Applicants' convenience to expedite issuance of a patent from the present application.¹

Consequently, in view of the present amendment and in light of the above comments, no further issues are believed to be outstanding, and the present application is believed to be

¹ As per MPEP 804.02, "[t]he filing of a terminal disclaimer to obviate a rejection based on nonstatutory double patenting is not an admission of the propriety of the rejection. *Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991). The court indicated that the "filing of a terminal disclaimer simply serves the statutory function of removing the rejection of double patenting, and raises neither a presumption nor estoppel on the merits of the rejection."

in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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